



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/550,275

06/26/2006

Hisashi Yoshimura

1035-603

3147

23117

7590

03/18/2008

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

ZIMMERMANN, JOHN P

ART UNIT

PAPER NUMBER

2861

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,275	Applicant(s) YOSHIMURA ET AL.	
	Examiner John P. Zimmermann	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-35 is/are pending in the application.
- 4a) Of the above claim(s) 3-7, 9-11 and 13-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 8, 12, 34 and 35 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were originally objected to by the examiner as failing to comply with 37 CFR 1.84(p)(5). Following the specification amendments in relation to the drawings, the examiner now finds the drawings to be in compliance with 37 CFR 1.84(p)(5).

Response to Amendment

2. The amendment to the claims filed on 07 January 2008 does not comply with the requirements of 37 CFR 1.121(c) because previously withdrawn **Claim 5** (Office Action Dated 05 October 2008, Page 2, Paragraph 3, Line 1) has been incorrectly identified as “(Currently Amended)” instead of “(Withdrawn—Currently Amended).” Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims*. Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing*. All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of “canceled” or “not entered” may be aggregated into one statement (e.g., Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required*. All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of “currently amended,” and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter

Art Unit: 2861

must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of “currently amended,” or “withdrawn” if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as “withdrawn—currently amended.”

3. Given that the reply filed on 07 January 2008 appears to be *bona fide*, and in an effort to speed the prosecution, examiner merely objects to the typographical error of the amendment and understands the Amendment to **Claim 5** to read “(Withdrawn—Currently Amended) The ink supply device... attached to the tank holder.” Examiner requests that the applicant submit an amendment in compliance with 37 CFR 1.121 in future correspondence.

Claim Rejections - 35 USC § 102

4. The applicant has cancelled **claim 2**; therefore the 35 U.S.C. 102(e) rejection of this claim is moot.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

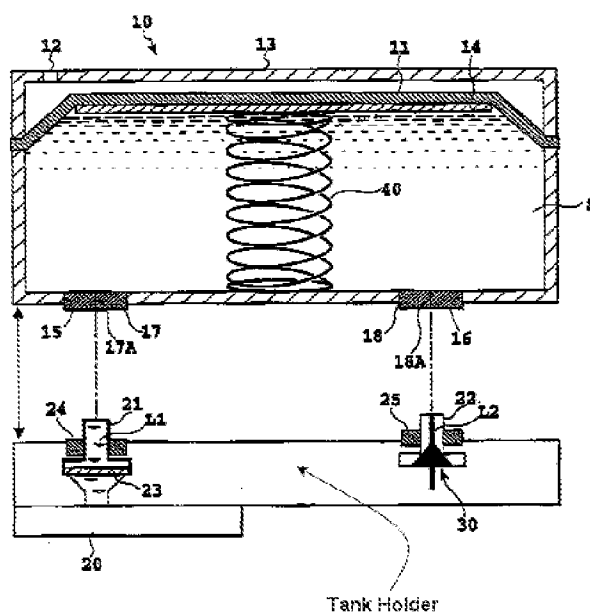
A person shall be entitled to a patent unless –

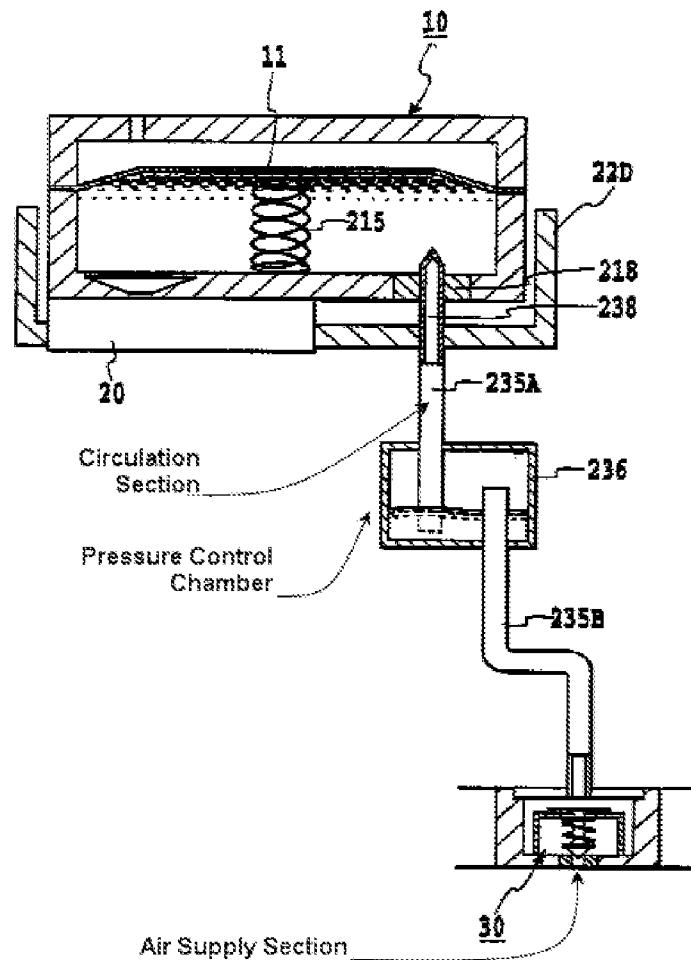
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1 & 34-35** is rejected under 35 U.S.C. 102(e) as being clearly anticipated by

Inoue et al. (US 2003/0067520 A1).

a. As related to independent **claim 1**, Inoue et al. teach an ink supply device, comprising: an ink tank for containing ink therein and a tank holder configured to hold the ink tank in a detachable manner,(Inoue et al. – Abstract, and Figure 2, Reference # 10 & Arrows, shown below) wherein the tank holder includes: a pressure control chamber [i.e. buffer tank], the ink and air circulating via a circulation section [i.e. channel of tubes] between the pressure control chamber and the ink tank; and an air supply section via which the ink tank communicates with an atmosphere external to the ink tank; the air supply section absorbing a pressure change caused by a change in an amount of ink remaining in the ink tank, and the pressure control chamber and the circulation section absorbing a pressure change caused by a temperature change [i.e. pressure changes that can not be absorbed by the movable member in the ink tank] in the ink tank (Inoue et al. – Abstract; Detailed Description, Pages, 15-16, Paragraphs 256, 275, & 276; and Figure 25, Reference #10, #236, #235A, #235B, #30, & Arrows, shown below).

Inoue et al. **FIG. 2**

Inoue et al. **FIG. 25**

b. As related to dependent **claim 34**, Inoue et al. teach the air supply section comprises an air supply passage whereby air freely communicates with the atmosphere external to the ink tank (Inoue et al. – Figure 25, Reference #30, #235B, #236, #235A, #238 & #10, shown above).

c. As related to dependent **claim 35**, Inoue et al. teach the air supply section comprises an air supply passage whereby air freely communicates with the atmosphere external to both the ink tank and the tank holder (Inoue et al. – Detailed Description, Pages 8-9, Paragraphs 173-181; Figure 25, Reference #30, #235B, #236, #235A, #238 &

Art Unit: 2861

#10, shown above; and Figure 3B, Reference # 36A, #34A, #31A, and Arrows, shown below).

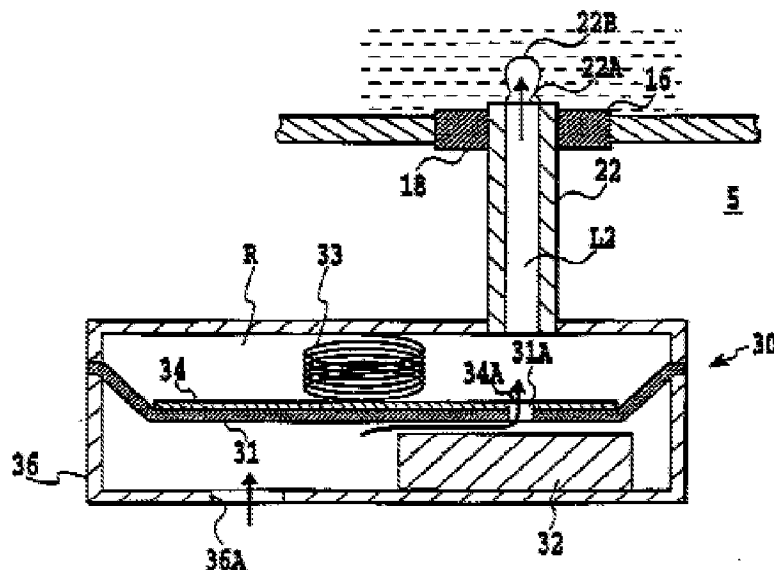


FIG.3B

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

Art Unit: 2861

3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
10. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Inoue et al.**, (US 2003/0067520 A1) and further in view of **Yoshida et al.**, (US 6,783,215 B2).

Inoue et al. teach the limitations of **claim 1** for the reasons above but *do not* specifically teach at least a part of a side surface of the pressure control chamber made of a biasing member. *However*, Yoshida et al. teach an ink supply system with a pressure control chamber that includes at least a part of a side surface made of a biasing member (Yoshida et al. – Figure 4, Reference #1, #305 and Arrow, shown below), which biases another surface so that the capacity of the pressure control chamber becomes larger (Yoshida et al. – Figure 4, Reference #306, shown below).

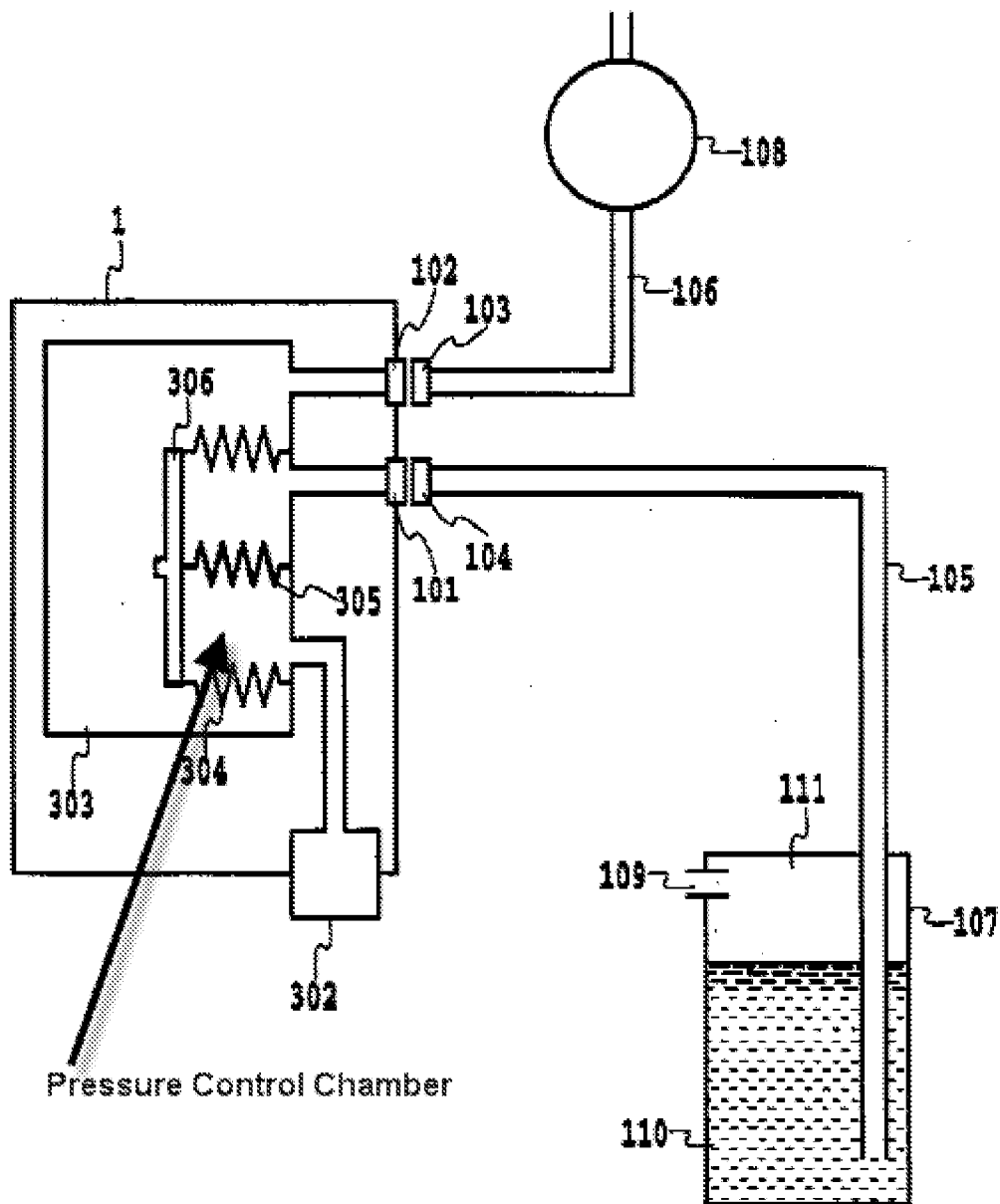


FIG.4

Given the same field of endeavor, specifically a liquid or ink supply system and method with a pressure control chamber, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the ink supply

system with a pressure control chamber incorporating a gravity volume control system as taught by Inoue et al. with the ink supply system with a pressure control chamber incorporating a biasing device volume control system as taught by Yoshida et al., in an effort to balance the pressurization of the control chamber and provide negative pressure as needed (Yoshida et al. – Abstract).

11. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Inoue et al.**, (US 2003/0067520 A1) and further in view of **Yamanaka et al.**, (US 6,805,437 B2).

Inoue et al. teach the limitations of **claim 1** for the reasons above but *do not* specifically teach the capacity of the buffer chamber and the ink main tank to satisfy the formula presented in **claim 12**. *However*, Yamanaka et al. teach capacities V_s [i.e. buffer chamber volume or V_b] and V_t [i.e. ink main tank volume or V_{mt}] satisfy the following formula: $0.1 \leq V_s/V_t \leq 0.3$ where V_t is the capacity of the ink tank and V_s is the capacity of the pressure control chamber (Yamanaka et al. – Description, Column 14 Lines 18-24). To further exemplify the teachings of Yamanaka et al. as related to the current claim: If the environmental use condition temperature range is 5°C to 40°C , V_s/V_t [i.e. V_b/V_{mt}] is equal to 0.118, which adequately falls in the claimed range. Given the same field of endeavor, specifically a liquid or ink supply system and method with a pressure control chamber, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the ink supply system with a pressure control chamber incorporating a gravity volume control system as taught by Inoue et al. with the ink supply system with a pressure control chamber with a specified capacity relationship as taught by Yamanaka et al., in an effort to balance the capacities

of the chamber and the tank and provide system capable of preventing formation of bubbles in the ink and minimizing the wasting of ink while adequately supplying ink (Yamanaka et al. – Summary, Page 3, Paragraph 34).

Response to Arguments

12. Applicant's arguments with respect to **claims 1 & 8** have been considered but are moot in view of the new ground(s) of rejection.

13. With respect to **claim 1**, and therefore **claim 8**, which inherently contains all of the limitations of independent **claim 1**, applicant amended the independent claim to completely alter and further specify the limitations of the tank holder. Due to these amendments, a further search was necessitated thereby producing additional prior art and more specific notation of existing prior art of record. Applicant argues “Main tank 204 in Yamanaka does not communicate with the external atmosphere. Thus... Yamanaka does not anticipate claim 1.” In response to applicant’s argument that Yamanaka et al. does not anticipate the claimed limitations, Examiner respectfully points out that Yamanaka et al. does in fact teach the main tank communicating with the external atmosphere (Yamanaka et al. – Detailed Description, Column 13). To alleviate the question, Examiner has provided the additional prior art in Inoue et al. and applicant is requested to see the rejection detailed above for further response to applicant's argument of patentability. As applicant merely argued that **claim 8** depends from **claim 1** with no further argument as to patentability, the rejection as detailed above stands. As no further arguments were made, the remaining dependent claims have been rejected accordingly.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

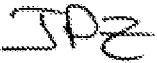
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is (571)270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature consisting of the letters 'JPZ' in a stylized, cursive script.

JPZ

/LUU MATTHEW/

Supervisory Patent Examiner, Art Unit 2861